

A TEXTING INTERVENTION FOR COLLEGE STUDENTS EXPERIENCING PARENTAL
DIVORCE

By

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Abstract

Parental divorce while in college affects young adults in numerous ways, especially the increased pressure of maintaining parent-child relationships. This study tests the feasibility of conducting a texting intervention for college students experiencing parental divorce. Young adult participants (N=6) received daily text messages that taught skills on how to cope with their parents' divorce, including Muscle Relaxation, Cognitive Restructuring, Mindfulness, and Communication. Results of the study indicated that there were some barriers to administering a texting intervention such as the ability to follow the text message handbook, and the repetitiveness of receiving daily text messages. Participants stated that the intervention was easily accessible since it was completely over the phone and that it felt personal as they were able to reflect on the coping skills presented in the videos on their own time. The current study has implications for developing a successfully administered texting intervention.

Introduction

‘Gray Divorce’, or divorce after age 50, has steadily increased by 25% since 1990, while the national divorce rate has decreased (Brown & Lin, 2012). Given that the age at first divorce among adults is increasing, it also follows that when children are involved they are older as well and are frequently attending a higher education institution. Previous research has found that parental divorce in later life can lead to problems in adult offspring such as an increase in stress levels, pressure to maintain parental relationships, and relationship changes between the parent and young adult (Bulduc, Caron, & Logue, 2007; Cain, 1989; Greenwood, 2014). The changes to parent-offspring relationship may be due to young adults over the age of 18 no longer having the court to make parenting time decisions. They often feel pressure to decide how they are going to spend their time with each parent (Bulduc, et al., 2007; Cain, 1989; Greenwood, 2014). The decisions that young adults make often result in father-child relationships faltering or disappearing altogether (Cooney, 1994). Furthermore, the only resource that is available to assist young adults with coping with their parents’ divorce is individual counseling, and only approximately 14% of college students utilize this resource for this reason (Cooney, Smyer, Hagestad, & Klock, 1986).

Given the limited resources and high distress associated with a parental divorce, there lies a need to develop an empirically based and accessible intervention for young adults experiencing a parental divorce in college. “Transitions,” is an online program for college students who have experienced a parental separation/divorce within the past year that aims to reduce stress and improve the parent-offspring relationship through teaching relaxation training, cognitive restructuring, mindfulness, and communication training (Shanholtz, Messer, Horan, & Randall, 2017). A previous randomized controlled trial for this online intervention found that this

intervention was effective in reducing distress surrounding parental divorce in a sample of college students at a university in the American southwest (Shanholtz, et. al., 2017). The use of online interventions is efficacious in delivering treatment in the privacy and comfortability in-home, the flexibility of the timing of the delivery, and the affordability of not having to pay for a therapist or the transportation costs that go along with the service (Wantland, Portillo, Holzemer, Slaughter, & McGhee, 2004). The “Transitions” program demonstrated barriers to it being fully online. Considering that participants logged into the program on their own time, there was no way to track their daily participation of the learned coping skills. Additionally, findings noted that participants did not watch all of the videos to their full length because they were too long.

Texting Interventions

Given the benefits of technology, previous research has explored cell phone texting as a way to deliver mental health services. Texting is effective because of the high prevalence of cell phones with texting capability. For example, 78% of teenagers have a cell phone, and 47% of which have smart phone technology (Markowitz, et. al., 2014). Texting is convenient because 95% of phones have SMS texting capability (Muench, 2013). Further, 99% of text messages are opened, and 90% of which are opened within the first 3 minutes of being received. Additionally, receiving messages releases dopamine that appeals to individuals’ desires to receive messages (Hall, 2015). Texting can offer accessibility and targeted treatments. Mobile text messaging interventions can provide the same kind of comfortability that online interventions offer, as texting interventions can be used with individuals at their own convenience, at varying times of the day, and when needed. Texting interventions are more effective than being administered

online because of their accessibility. Considering the prevalence of individuals with cell phones, the intervention would be easily available, and contact would be immediate.

Further, mobile interventions can be targeted toward individual needs. They can be individually tailored for content and timing as well as for a range of variables, including age or gender (Pine, 2015). Text messaging interventions are a favored form of communication, with individuals demonstrating a higher chance of reading text messages than emails (Pine, 2015). They are multiple, repeated, brief interventions that provide check-ins which focus on minimal contact over longer periods of time (Muench, et.al., 2013). Texting interventions are often used for addiction behavioral treatments as well as mental health treatments (Pine, 2015). Individuals with addictions are often in different stages towards quitting, which is a reason why texting interventions are used to provide individually targeted approaches. Mental health texting interventions are targeted towards encouraging healthy lifestyles (Pine, 2015). Texting interventions are adaptable because of their convenience and flexibility in the ability to send and receive messages.

Feasibility

Feasibility studies are conducted to determine the potential success of accurately delivering an intervention before conducting a larger randomized controlled trial (Bowen, et. al., 2009). Feasibility studies are often used when there is only a small amount of information published on a specific topic, or if there is an already-existing study that is being tested for improvement (Bowen, et. al., 2009). Feasibility focuses on acceptability, practicality, demand, and implementation, which are determined by how individuals react to the intervention that will be implemented. Furthermore, feasibility studies address adaptation, integration, expansion, and

limited-efficacy testing, which determine the program's effectiveness in a given population and focuses on the ways it is successful or unsuccessful in such a setting (Bowen, et. al., 2009).

Previous research examines the feasibility of using texting interventions. One study focused on smoking cessation and analyzed the effects of getting users to quit through a texting intervention that was specifically targeted towards the quitting stage of the user. The messages addressed behavioral tips and provided motivational support, and there was overall improvement found in mood symptoms of nicotine withdrawal (Bock, et. al., 2013). Another study used a smartphone app intervention for participants struggling with schizophrenia. The app used notifications to send tips and treatment target assessments, which resulted in a reduction of positive symptoms of schizophrenia, and general symptoms of psychopathology and depression (Ben-Zeev, et. al., 2014).

A randomized controlled trial such as the smoking cessation texting intervention sought to utilize text messaging as a means of administering messages to participants according to their needs. In the smoking cessation study, messages were sent according to what stage participants were in towards quitting smoking. Researchers measured the acceptability and demand of the study by measuring participants' interactions with the intervention. In addition, they measured for the expansion of a feasibility study, which showed them that a texting intervention can be used in a diverse group of adult smokers (Bock, et. al., 2013). The other feasibility study which used a smartphone app for individuals with schizophrenia used an on-demand intervention that provided resources to manage and regulate schizophrenic symptoms. They measured the acceptability of participants' usage of the app, and implementation of the new program's successful deliverance to participants (Ben-Zeev, et. al., 2014). The app found reduction of

positive symptoms of schizophrenia, and general symptoms of psychopathology and depression (Ben-Zeev, et. al., 2014).

Current Study

The goal of the current study is to determine the feasibility of adapting “Transitions” to a texting intervention to help college students cope with their parents’ divorce. We will be measuring feasibility in terms of acceptability, practicality, and demand in a small, intensively studied sample of 6 college students. The acceptability of the feasibility study will focus on the participants’ response to the study, including any barriers to the intervention. The practicality of the study will track the completion of the intervention by participants. Finally, the demand of the study will determine how much time is spent with each participant. Analyzing the results of the feasibility study is important for determining if texting is an effective way to administer this intervention.

Methods

Participants

The participants for this study were 6 females enrolled in an introductory psychology course. Participants were screened into the study if their parents divorced within the past 12 months, if they were over the age of 18, and if they were not currently seeking psychological services. Additionally, they must have a cell phone with unlimited texting and had scored above a three on the Painful Feelings About Divorce Filter of Divorce Subscale which indicates that they feel distress about their parents’ divorce. This eligibility criteria was screened through completion of a survey given in their introductory psychology course. Basic demographics can be found in Tables 1 and 2.

Measures

Demand. We measured demand in relation to how much time is spent with each participant. The time spent includes pre and post meetings, and the amount of time that is spent texting the daily homework assignments. On average, text messages took about 1.5 minutes to send each time. We will be also measuring adherence to the facilitator handbook by analyzing the consistency with the manual. This was done through examining the text message threads of each participant. We compared the messages that were sent to each participant, determined if they were consistent with the facilitator handbook, and counted the number of messages that were deemed off-script.

Practicality. We measured practicality in terms of the number of skill training module videos watched by each participant. We tracked the number of text responses participants sent to the facilitator, including any emails that were received. After sending out homework assignments, we tracked the completion rate for each participant. Homework assignments are supposed to be filled out daily, with a total of 6 times for each module.

Acceptability. We also tracked the amount of times participants responded to text messages. The completed intervention outcome measures were reviewed at pre-test and post-test. The outcome measures were demonstrated through various scales and surveys. The Depression Anxiety Stress Scale measured stress levels of participants, including statements about the ways that they experience this stress, for example, “I found it hard to wind down.” The Parent-Child Relationship survey measured participants’ relationships with their mother and father separately, through asking questions such as “How close do you feel to your father/mother?” The Shortened Attitudes and Beliefs Scale measured for irrational thinking, asking questions like, “If important people dislike me, is it because I am an unlikeable, bad person?” Furthermore, the Five Facet

Mindfulness Questionnaire Short Form focused on rating mindfulness, with statements such as “I watch my feelings without getting carried away by them.”

Procedure

The study received Institutional Review Board approval to conduct this study and recruit participants through their introductory psychology course. Participation in the study was voluntary, and participants were told that they do not have to answer any questions that they don't want to. Over the course of 4 weeks, with one module per week, participants received a video at the start of the week that talked about one of the skills that they learned to help them cope with their parents' divorce. Participants indicated when would be a good time to receive text messages and for them to fill out the survey. The accompanying introduction message to the weekly module video mentioned what skill that participants were going to be practicing throughout the week. We tracked when participants watched the video, and sent a homework assignment message, which stated how participants were to practice the learned skill daily. The initial homework assignment message required participants to reply with 'y' to confirm that they received the homework and would therefore know how to practice the skill for the week. Participants who did not respond to text messages more than 3 times would be dropped from the study. They were sent a link to a survey where they would be able to fill out questions pertaining to their daily experience practicing the skill that was taught in the video that was sent at the start of the week. Additionally, participants received daily reminders for them to fill out the survey tracking their practice of the learned skill. There were weekly check-in texts sent halfway through the week to assess how participants were doing. If participants expressed any kind of difficulty, a message was sent to validate their feelings and reinforce the ways that the learned skill would be able to help them. These modules included the same skills used in the

“Transitions” intervention, which included: Muscle Relaxation, Cognitive Restructuring, Mindfulness, and Communication.

Progressive Muscle Relaxation. The Progressive Muscle Relaxation module focused on relieving the physical strains of stress. The skill training video demonstrated ways to relax tension in all areas of the body, and to recognize the differences between a relaxed and tense state. For the homework assignment, participants filled out questions that asked if they were able to practice PMR, how many times they practiced, if they had any problems practicing, and if they found it to be helpful for reducing tension.

Cognitive Restructuring. The Cognitive Restructuring module focused on ways that participants experienced negative thoughts and taught them how to think about these thoughts in a positive way. The skill training video gave examples of negative thoughts they might’ve had and taught them how to think about it in a different way to change how they feel. In the homework assignment, participants were asked to fill out a thought diary where they identified one negative thought they had about their parents’ divorce, thought about what they were doing when it occurred, and addressed how it made them feel. They were then challenged to think about it in a positive way to change any negative feelings they had towards their parents’ divorce.

Mindfulness. The Mindfulness module focused on ways that participants can be more aware of their body and thoughts. The skill training video focused on breathing exercises to relax the body. In the homework assignment, participants filled out questions that asked if they were able to practice mindfulness, how many times they practiced, if they had any problems practicing, and if they found it to be helpful in becoming more aware of their thoughts and feelings.

Communication. The Communication module focused on body language, active listening, and verbal communication. The skill training video addressed positive body language, which includes sitting upright, facing the person you are talking to, and making eye contact. It also addressed how to use tone and word choice to determine how to make the conversation go in a positive direction. The homework assignment asked participants to address what they would like to communicate to their parents and if they practiced with one or both parents.

Results

Demand

There were a total of 1488 individuals who opened the survey administered in their introductory psychology course. Among the 1408 responses that were completed, 1349 had unlimited texting, which was required to participate in this study. There were eighteen individuals that had experienced parental divorce within the past year, with half scoring above a 3 on the Seeing Life Through a Filter of Divorce subscale of the Painful Feelings About Divorce Scale. In total, 9 individuals met the criteria to be eligible for the study. There was a total of 6 participants who accepted our invitation to participate in the current study.

We calculated the amount of time that was spent on initial and termination meetings with each participant, as well as the amount of time that was spent facilitating the daily homework assignment messages, check-in text messages, and skill videos. Introduction meetings and closing meetings were approximately 30 minutes. The amount of time that was spent sending homework texts to participants was around 1.5 minutes per message or email sent. This comes out to about 580.5 minutes total sending messages to all participants. The total amount of time spent per week conducting the intervention was calculated by totaling the amount of texts that were sent to all 6 participants over the course of 6 weeks. This number was then divided by 4 to

get the average amount of messages that were sent across the 4 weeks that the intervention was facilitated. Since each message sent took approximately 1.5 minutes to administer, the number of messages that were sent across the 4 weeks was multiplied by 1.5 to calculate the amount of time that was spent sending each message. This number was then divided by 60, to find the total hours on average that were spent per week, which was around 2.42 hours for all 6 participants.

Therefore, to calculate the total time spent with each participant per week, the 2.42 hours spent weekly was divided by 6, which totaled to approximately 40 minutes a week per participant.

In terms of following the text message facilitator handbook, there were on average 24 messages per participant that were off script, as indicated in Table 3. This included reminder messages that did not follow the script, as well as inconsistency with not sending the link to fill out the homework assignment survey each time a reminder was delivered to a participant.

Practicality

We tracked the number of videos watched, as well as the completion rate of homework. Participants watched 46% of skill videos, as indicated in Table 4. On average, participants practiced the learned skills 66% of the time throughout the duration of the study and filled out 75% of the homework assignment surveys. Tables 4 and 5 indicate the number of skill videos watched, as well as the number of days the participants practiced the learned skill and the number of homework's they filled out.

Acceptability

We tracked the response rate of the number of text messages sent. On average, participants responded to 60% of the text messages sent. Table 6 indicates the number of texts sent as well as the number of responses received across all participants. In the qualitative semi-structured interviews, there were indications of minor technical difficulties, such as inability to

receive skill video links over text, or the width of the video not fitting the cell phone screen. Participants responded to less text messages than were predicted, however as indicated in the qualitative interviews, this could be related to the inconsistency of reminders to fill out the homework assignment surveys. The qualitative interviews additionally indicated that at times participants did not have trouble completing the survey that was sent, so they did not find a response would be needed. As predicted, participants filled out 75% of the homework assignments that were sent. Despite this finding, participants indicated in the qualitative interviews that oftentimes filling out the questions daily felt repetitive, and sometimes they would forget to do so. Participants also stated in the interviews that the skill videos were helpful in learning different coping techniques for dealing with their parents' divorce. They also said that the intervention was easy to follow and very accessible since it was all over the phone. Additionally, participants found that since the intervention was all over the phone, it felt more personal and they could reflect on their parents' divorce on their own time.

Discussion

The goal of the current study was to assess the feasibility of administering a texting intervention for college students coping with their parents' divorce. The study was run to determine if a larger scale study testing the efficacy of this program would be possible. This texting intervention was adapted from the "Transitions" online program in order to provide easily accessible information and to be able to track participant interaction with the intervention. The "Transitions" program barriers included participants not watching videos to their full length as they were too long. The texting intervention was adapted to include shorter videos, at approximately 2 minutes in length, and participants were expected to watch the skill videos that were sent weekly to their full duration. The findings indicated that participants watched less than

half of the skill videos in total. Future development of the intervention should focus on this aspect and investigate why the videos were not watched to their full extent. It is possible that the participants understood the module topic without needing a full explanation. It is also possible that they assumed they knew what was expected for filling out the homework assignments without requiring a full video explanation.

The amount of time that was spent with each participant was significantly lower than we predicted. The rate of responses from participants was also lower than expected. We predicted that participants would respond to 88% of the text messages sent, however they only responded to 60%. As indicated to participants, they would be dropped from the study if they did not respond 'y' to the homework assignment texts. This could mean that participants did not think that a response was required after the daily reminder texts or the check-in messages, but only for the messages that indicated a response was needed. Since there was a link sent for how to fill out the homework assignments, it is possible that participants just directly clicked the link for the survey and documented their responses there instead of sending a message back. There were also minor difficulties in sending the homework assignment links, as one participant was unable to receive the links through text, and therefore did not respond to the emails that she received with the links. Facilitators spent less weekly time communicating with each participant than we predicted, which could be related to the low response rate of the participants. For future development of this program, it is important to note that the time spent with each participant is lower than predicted, and therefore there should be more allocated time on delivering the messages consistently. It would be interesting to learn more about if individuals' daily texting patterns play a part in determining if they are going to actively respond to the intervention. Individuals who consider themselves bad texters in general may not respond to the reminder

messages that are sent. Additionally, it would be interesting to learn if individuals who are bad texters often times forget to check their phone and therefore forget to fill out the survey, rather than it being a problem related to facilitating the messages.

The current study provided a handbook for facilitators to follow for administering text messages to participants at the times they designated. There were issues related to not following the manual directly. Although the additional messages between participant and facilitator were often questions related to the study, there were still 24 messages on average per participant that were sent off-script of the handbook. If we were to continue this study, there should be focus on following the handbook directly and on sending messages at the designated times, in order to increase the possibility of a higher response rate. Participants indicated when would be a good time to receive messages. However, the messages were not always sent consistently to participants at the time that they indicated. Part of the benefit of this study was the flexibility of being able to conveniently communicate with participants over text. If participants did not receive a reminder message at the time that they expected, it could affect their response rate as they could forget to fill out the survey at a later time, or they could be busy at the time that it was eventually sent.

The qualitative interviews that were conducted post participant completion demonstrated improvements for the study. The goal for this study was to determine if administering a texting intervention was feasible. Despite the low rates of participants watching the skill videos to their full extent, there was indication that those who did watch the videos found them to be helpful. Additional comments about the intervention being simple to follow provides data for this intervention to be an acceptable design. There was mention of the inconsistency in delivering the reminder messages and homework assignments, and of the repetitiveness in completing the

surveys daily. However, all participants indicated that there is a desire for this intervention, and that they believe others would use it. The findings determine that this program would be worthwhile to continue developing. The qualitative interviews indicate that further data should be collected in terms of administering the program in the most effective way, including being consistent to the facilitator handbook and sending messages when participants would be most able to respond.

Limitations

There were some limitations to this study, which may mean that our results do not generalize to the population at large. In terms of participant demographics, all of our participants were female. This limits our ability to generalize the results to males as well. Another limitation was that our study required participants to have unlimited texting. Although the majority of individuals who opened the survey in their introductory psychology course had unlimited texting, there was still a small group that did not. There were some minor technical difficulties that required the links that were sent for the homework assignment surveys to be sent through email, and therefore they were not easily accessible through the phone as intended. Furthermore, for the first two participants, the software that we were using was not working for the first module, so we were unable to track how long the videos were watched.

Future Directions

Future research should include analysis of male interaction with this texting intervention, as our sample was all female participants. There should be analysis of the population of individuals who experience stress related to parental divorce to determine if the sample is mostly females to begin with. We will need to recruit more individuals and conduct a larger scale study in order to determine the feasibility of using this intervention through text, as our sample size

represented only a small population. Finally, it would be beneficial to track individuals for longer, to determine if they continue to engage with the program and practice the learned skills as indicated in the homework assignments.

Conclusion

Throughout this study, we have found that participants are likely to fill out the homework assignment surveys but are less likely to interact with the both the skill videos that were sent, as well as with the facilitator administering the daily reminders and check-in messages. We plan to address the inconsistencies that were found in facilitating the intervention, and consider the barriers to the treatment that were established in the qualitative interviews that were conducted post participant completion, in order to determine the most effective design of this texting intervention for a possible larger scale study to be conducted in the future.

Table 1: *Ethnicity*

Ethnicity	N
African American	1
Caucasian	2
Hispanic	3

Table 2: *Gender*

Gender	N
Males	0
Females	6

Table 3: *Number of text messages sent off-script*

Participant	Number of texts sent off-script
1	18
2	22
3	31
4	25
5	27
6	19
Totals	142

Table 4: *Number of skill videos watched*

Module	Number watched	Number did not watch
1	2	4*
2	3	3
3	2	4
4	4	2
Total (N= 11)		

*Two of the individuals in Module 1 did not have access to Qualtrics at the start of the study so we were unable to track if the video was watched.

Table 5: *Number of days participant practiced skill & number of homework's filled out for each module*

Module	Number of days practiced	Number of homework's filled out
1	31	31
2	19	25
3	25	25
4	20	27
Totals	95	108

Table 6: *Number of text messages sent & received*

<u>Participant</u>	<u>Number of texts sent</u>	<u>Number of text responses received</u>
1	58	14
2	23	61
3	71	53
4	83	40
5	72	43
6	80	20
Totals	387	231

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